REMARKS

Claims 1-26 are pending in the present Application. Claims 1, 3 and 4 have been amended, claims 9-26 are allowed, leaving claims 1-8 for consideration upon entry of the present Amendment.

Claim 1 has been amended to incorporate limitations of claim 3, as originally filed.

Claim 4 has been amended to provide proper antecedent basis resulting from the amendment to claim 1.

No new matter has been introduced by these amendments.

Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claim Rejections Under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a)

Claims 1 and 2 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Tachibana et al. (US 4,035,563) (hereafter "Tachibana") as evidenced by Gloesener et al. (US 5,214,092) (hereafter "Gloesener"). (Office Action dated 4/5/2007, page 2) Further, claims 3-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. (Office Action dated 4/5/2007, page 4) Applicants respectfully traverse this rejection.

To anticipate a claim, a reference must disclose each and every element of the claim. *Lewmar Marine v. Varient Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987).

The invention of claims 1 and 2 relates to a nano calcium carbonate/vinyl chloride monomer dispersion comprising a vinyl chloride, nano calcium carbonate and a lipophilic dispersing agent. The nano calcium carbonate/vinyl chloride monomer dispersion can further comprise a polymerization initiator (claim 2). In addition, presently amended claim 1 incorporates the limitation "which comprises 1-30 parts by weight of nano calcium carbonate per 100 parts by weight of the vinyl chloride monomer" from dependent claim 3.

Tachibana discloses vinyl chloride monomers, calcium carbonate as a water soluble metallic salt, initiator and suspension stabilizing agent. (Col. 1, ll. 8-12; Table 5) Gloesener

discloses nano-size (0.05~0.2μm) particles of precipitated calcium carbonate (PCC). (Col. 2, ll. 67 – Col. 3, ll. 2) In view of the above, the examiner contends that the process of Tachibana also involves the precipitation of the calcium carbonate while preparing a mixtures comprising vinyl chloride monomers in the presence of lipophilic dispersing agents. (Office Action dated 4/5/2007, page 3)

However, the present invention and Tachibana differ in many respects. In particular, a nano calcium carbonate/vinyl chloride monomer dispersion according the present invention comprises a vinyl chloride, nano calcium carbonate and a lipophilic dispersing agent. (Claim 1) In the present invention, the nano calcium carbonate (precipitated calcium carbonate, PCC) has a particle size smaller than 1μm, preferably 40-70nm. A lipophilic dispersing agent is used to modify the surface of the PCC. The lipophilic dispersing agent is a monomer dispersing agent or a polymer dispersing agent having carboxylic acid, phosphoric acid or a salt thereof, so that it is compatible with the surface of the nano calcium carbonate. More preferably, it has a chemical structure compatible with a polyvinyl chloride (PVC) resin.

In contrast with the present invention, Tachibana relates to a method of suspension polymerizing vinyl chloride or a mixture of a major proportion of vinyl chloride with the remainder consisting of other monomers copolymerizable therewith, in the presence of an oil soluble polymerization initiator, suspension stabilizer (also called suspension stabilizing agent), nitrite and a water soluble metallic salt. (Col. 1, ll. 45-56) The suspension stabilizer used in Tachibana is a natural or synthetic high polymer or an inorganic dispersion agent to disperse in aqueous medium for suspension polymerization of vinyl chloride. (Col. 2, ll. 41-43) Tachibana provides a method of suspension polymerization which comprises dispersing a vinylic compound such as vinyl chloride, or the like, in an aqueous medium in the presence of a dispersant followed by polymerizing it in the presence of an oil-soluble initiator, nitrite and a water soluble metallic salt. (Col. 1, ll. 45-56) Therefore, Tachibana substantially reduces or eliminates the adhesion of polymeric dreg substance (sometimes called scale) to the inner wall of a polymerization vessel used in the suspension polymerization.

From the examples of Tachibana it is clear that the effect of preventing scale formation for metallic salts of valence at least 3, together with nitrite is very much superior to that of use

of nitrite alone (Col. 6 ll. 18-26). Calcium carbonate is used only as an example of a metallic salt having a valence of 2 (Table 5). Therefore, even though one of ordinary skill in this art is well aware that the precipitation of calcium carbonate is an easy method for making nano-size particles of calcium carbonate from Gloesener, it cannot be applied to the process of Tachibana. To clarify the characteristics of the present invention, claim 1 was amended by introducing the amount of nano calcium carbonate used (l-30 parts by weight per 100 parts by weight of the vinyl chloride monomer) from claim 3.

Thus, in summary, presently amended claim 1 incorporates the limitation "which comprises 1-30 parts by weight of nano calcium carbonate per 100 parts by weight of the vinyl chloride monomer" from dependent claim 3. In view of this amendment, and further in view of the remarks above, Applicants believe that claims 1 and 2 are not anticipated by or, in the alternative, obvious over Tachibana as evident by Gloesener. Applicants respectfully request a withdrawal of the § 102(b) and § 103(a) rejection over Tachibana and an allowance of the claims.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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